UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 November 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,8-12,15,17-19,22,23,26 and 28-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,8-12,15,17-19,22,23,26 and 28-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
      Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
      Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-3, 6, 8-12, 15, 17-19, 22-23, 26, and 28-32.

2.   **Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   **Claims 1-3, 6, 8, 10-12, 15, 17, 19, 22-23, 26 and 28 are rejected under 35**

U.S.C. 103(a) as being unpatentable over "Global Events and Global Breakpoints

in Distributed Systems" by Haban and Weigel (Haban) in view of US Re. 26,852 to

Heinen, Jr. (Heinen).

4.   **Regarding Claim 1:** Haban discloses an apparatus comprising:

at least one processor (pg. 166, col. 1, par. 2 "processors");

a memory coupled to the at least one processor (pg. 166, col. 1, par. 3

"memory");

a first job residing in the memory and executed by the at least one processor (pg.

166, col. 1, par. 2 "multiple process running on multiple processors");

a second job residing in the memory and executed by the at least one processor (pg. 166, col. 1, par. 2 "multiple process running on multiple processors");

an inter-job breakpoint mechanism that detects at least one condition in the first job and responds thereto (pg. 173, col. 2, par. 2 "the global event is satisfied and the action associated with the satisfaction is performed").

5.   Haban does not explicitly disclose the response comprises enabling a breakpoint in a second job, but does disclose sending a debug message to another job (pg. 173, col. 2, par. 2 "The local debuggers ... exchange information among each other").

6.   Heinen teaches a message that enables a breakpoint in a second job (col. 7, lines 32-34 "SET BREAK – a message requesting that a breakpoint be set in the specific job or process").

7.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Haban and Heinen to provide means for debugging distributed processes (Haban Title "Global Breakpoints in Distributed Systems"; Heinen Abstract "debugging ... jobs or processes running on one or more remote units").

8.   **Regarding Claims 2, 11 and 22:** The rejections of claims 1, 10 and 19 are incorporated, respectively; further Haban discloses the at least one condition comprises

the start of execution of a specified portion of code in the first job (Table 1, "enter

procedure <blockID>").

9.   **Regarding Claims 3, 12 and 23:** The rejections of claims 1, 10 and 19 are

incorporated, respectively; further Haban discloses the at least one condition comprises

the end of execution of a specified portion of code in the first job (Table 1, "leave

procedure <blockID>").

10.   **Regarding Claims 6, 15 and 26:** The rejections of claims 5, 14 and 25 are

incorporated, respectively; further Haban discloses wherein the inter-job breakpoint

mechanism halts execution of the second job when at least one condition specified in

the breakpoint in the second job is satisfied (pg. 167, col. 1, par. 3 "a primitive event Pe

is an event that describes the behavior of the execution or state of a single process").

11.   **Regarding Claims 8, 17 and 28:** Haban discloses an apparatus comprising:

at least one processor (pg. 166, col. 1, par. 2 "processors");

a memory coupled to the at least one processor (pg. 166, col. 1, par. 2

"memory");

a first job residing in the memory and executed by the at least one processor (pg.

166, col. 1, par. 2 "multiple process running on multiple processors");

a second job residing in the memory and executed by the at least one processor

(pg. 166, col. 1, par. 2 "multiple process running on multiple processors");

an inter-job breakpoint mechanism that detects at least one condition in the first job and,

in responding thereto (pg. 173, col. 2, par. 2 "the global event is satisfied and the action

associated with the satisfaction is performed"),

12.   Haban does not explicitly disclose the response comprises modifying a program

variable in a second job, but does disclose sending a debug message to another job

(pg. 173, col. 2, par. 2 "The local debuggers ... exchange information among each

other").

13.   Heinen teaches a message that modifies a program variable in a second job (col.

7, line 30-32 "DEPOSIT – a message requesting that data forming part of the message

be deposited in the memory of the specific job or process").

14.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Haban and Heinen to provide means

for debugging distributed processes (Haban Title "Global Breakpoints in Distributed

Systems"; Heinen Abstract "debugging ... jobs or processes running on one or more

remote units").

15.   **Regarding Claim 10:** Haban discloses a method for debugging comprising the

steps of:

defining at least one condition in a first job (pg. 166, col. 2, par. 3 "We define an

primitive event as a special condition that occurs during operation of a process and that

describes significant behavior of the execution or state of the process");

defining at least one action to take on a second job (pg. 166, col. 2, par. 1 "If a

global event occurs ... the distributed system is halted");

monitoring execution of the first job; monitoring execution of the second job (pg.

166, col. 2, par. 4 "monitoring all the simultaneous sequences of events");

and when the at least one condition in the first job is satisfied, responding thereto

(pg. 173, col. 2, par. 2 "the global event is satisfied and the action associated with the

satisfaction is performed").

16.   Haban does not explicitly disclose the response comprises enabling a breakpoint

in a second job, but does disclose sending a debug message to another job (pg. 173,

col. 2, par. 2 "The local debuggers ... exchange information among each other").

17.   Heinen teaches a message that enables a breakpoint in a second job (col. 7,

lines 32-34 "SET BREAK – a message requesting that a breakpoint be set in the

specific job or process").

18.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Haban and Heinen to provide means

for debugging distributed processes (Haban Title "Global Breakpoints in Distributed

Systems"; Heinen Abstract "debugging ... jobs or processes running on one or more

remote units").

19.   **Regarding Claim 19:** Haban discloses a computer-readable program product

comprising:

(A) an inter-job breakpoint mechanism that monitors execution of first and

second jobs, and when at least one condition in the first job is satisfied, responds

thereto (pg. 173, col. 2, par. 2 "the global event is satisfied and the action associated

with the satisfaction is performed");

(B) recordable media bearing the inter-job breakpoint mechanism (pg. 172, col.

1, par. 2 "Each node ... with its own debugging process ... connected to a central test

station").

20.   Haban does not explicitly disclose the response comprises enabling a breakpoint

in a second job, but does disclose sending a debug message to another job (pg. 173,

col. 2, par. 2 "The local debuggers ... exchange information among each other").

21.   Heinen teaches a message that enables a breakpoint in a second job (col. 7,

lines 32-34 "SET BREAK – a message requesting that a breakpoint be set in the

specific job or process").

22.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Haban and Heinen to provide means

for debugging distributed processes (Haban Title "Global Breakpoints in Distributed

Systems"; Heinen Abstract "debugging ... jobs or processes running on one or more

remote units").

23.   **Claims 9, 18 and 29-32 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over "Global Events and Global Breakpoints in Distributed

Systems" by Haban and Weigel (Haban) in view of US Re. 26,852 to Heinen, Jr.

(Heinen) further in view of US 6,083,281 to Diec et al. (Diec).

24.   **Regarding Claims 9, 18 and 29-32:** The rejections of claims 8, 17, 28, 1, 10 and

19 are incorporated, respectively; further, Haban discloses a response comprising

outputting a debug message to a second job (pg. 173, col. 2, par. 2 "The local

debuggers ... exchange information among each other"). However, the Haban-Heinen

combination does not explicitly disclose the response outputs a debug message to a

second job's output.

25.   Diec teaches a response comprising outputting a debug message to a second

job's output (col. 2, lines 1-5 "issuing a message to another software object to trigger

generation of tracing data")

26.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Haban-Heinen and Diec in order to provide means for debugging distributed processes (Haban Title "Global Breakpoints in Distributed Systems"; Heinen Abstract "debugging ... jobs or processes running on one or more remote units"; Diec col. 2, lines 10-12 "provide a distributed data network ... that has a tracing capability").

Conclusion

THIS ACTION IS MADE NON-FINAL, in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason Mitchell
2/8/07

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